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## AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please cancel claims 1-64 found on pages 206-217 of the application.

Please amend the claims submitted in the preliminary amendment as follows:

65 2. (currently amended) A computer program product, disposed on a computer readable medium, the product including instructions for causing a processor to: access Transmission Control Protocol (TCP) segments of a bidirectional TCP connection between a first TCP end-point operating at a first network device and a second TCP end-point operating at a second <u>remote</u> network device;

determine a first TCP state machine state of the first TCP end-point based on at least some of the accessed TCP segments;

determine a second TCP state machine state of the second TCP end-point based on at least some of the accessed TCP segments;

reassemble data a first TCP data stream of data sent from the first TCP endpoint to the second TCP end-point from payloads of the accessed TCP segments sent
from the first TCP end-point to the second TCP end-point based on sequence numbers
of the accessed TCP segments sent from the first TCP end-point to the second TCP
end-point, at least some of the accessed TCP segments sent from the first TCP endpoint to the second TCP end-point being received out of order; and

reassemble data a second TCP data stream of data sent from the second TCP end-point to the first TCP end-point from payloads of the accessed TCP segments sent from the second TCP end-point to the first TCP end-point based on sequence numbers of the accessed TCP segments sent from the second TCP end-point to the first TCP

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<u>end-point</u>, at least some of the <u>accessed</u> TCP segments <u>sent from the second TCP</u> <u>end-point to the first TCP end-point</u> being received out of order.

- 66 3. (currently amended) The computer program product of claim 65 2, wherein the instructions that determine the TCP state machine state of the first TCP end-point and second end-point comprise instructions that determine a change in the TCP state machine state of the first and second TCP end-point.
- <u>67</u> 4. (currently amended) The computer program product of claim <u>65</u> 2, wherein the instructions comprise instructions of a software library.
- <u>68</u> 5. (currently amended) The computer program product of claim <u>67</u> 4, wherein the instructions comprise instructions of at least one object-oriented class.
- 69 6. (currently amended) The computer program of claim 68 5, wherein the at least one object-oriented class comprises at least one of the following: a class for the <u>a</u> bidirectional connection, a class for a TCP end-point, and a class for TCP segment reassembly.
- 70 7. (currently amended) The computer program product of claim 65 2, wherein the instructions to reassemble data the first TCP data stream of data sent from the first TCP end-point to the second TCP end-point from the payloads of the accessed TCP segments sent from the first TCP end-point to the second TCP end-point comprise instructions that maintain a linked list, wherein the reassembled data is stored in storing the first TCP data stream in discontiguous memory locations linked by the linked list.
- <u>71</u> 8. (currently amended) The computer program product of claim <u>65</u> 2, wherein the instructions further comprise instructions to provide a return code <u>indicating</u> at least

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one of: indicating whether a TCP segment was received out-of-order and indicating whether a TCP segment overlapped a another TCP segment.

 $72 \, 9$ . (currently amended) The computer program product of claim  $65 \, 2$ , wherein the instructions further comprise instructions to return data of a field within a header of a TCP segment.

73 10. (currently amended) The computer program product of claim 65 2, further comprising application program instructions that invoke the instructions to access TCP segments, determine the first TCP state machine state, determine the second TCP state machine state, reassemble data the first TCP data stream from the accessed TCP segments sent from the first TCP end-point to the second TCP end-point, and reassemble data the second TCP data stream from the accessed TCP segments sent from the second TCP end-point to the first TCP end-point.

<u>74</u> 11. (currently amended) A method, comprising: providing a software library featuring operations to:

access Transmission Control Protocol (TCP) segments of a bidirectional TCP connection between a first TCP end-point operating at a first network device and a second TCP end-point operating at a second remote network device;

determine a first TCP state machine state of the first TCP end-point based on at least some of the accessed TCP segments;

determine a second TCP state machine state of the second TCP end-point based on at least some of the accessed TCP segments;

reassemble data a first TCP data stream of data sent from the first TCP endpoint to the second TCP end-point from payloads of the accessed TCP segments sent
from the first TCP end-point to the second TCP end-point based on sequence numbers
of the accessed TCP segments sent from the first TCP end-point to the second TCP

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<u>end-point</u>, at least some of the <u>accessed</u> TCP segments <u>sent from the first TCP end-</u> point to the second TCP end-point being received out of order; and

reassemble data a second TCP data stream of data sent from the second TCP end-point to the first TCP end-point from payloads of the accessed TCP segments sent from the second TCP end-point to the first TCP end-point based on sequence numbers of the accessed TCP segments sent from the second TCP end-point to the first TCP end-point, at least some of the accessed TCP segments sent from the second TCP end-point to the first TCP end-point being received out of order.

- 75 42. (currently amended) The method of claim 74 41, wherein the <u>operations</u> to <u>determine</u> determining the TCP state machine state of the first and second end-point comprises <u>operations</u> to <u>determine</u> determining a change in the TCP state machine state of the first and second end-point.
- $\underline{76}$  13. (currently amended) The method of claim  $\underline{74}$  11, wherein the software library comprises at least one object-oriented class.
- 77 14. (currently amended) The method of claim 74 11, wherein the at least one object-oriented class comprises at least one of the following: a class for the a bidirectional connection, a class for a TCP end-point, and a class for TCP segment reassembly.
- 78 45. (currently amended) The method of claim 74 11, wherein the operations to reassemble data from accessed TCP segments sent from the first TCP end-point to the second TCP end-point comprise operations that maintain a linked list, wherein the reassembled data is stored in storing the first TCP data stream in discontiguous memory locations linked by the linked list.

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79 16. (currently amended) The method of claim 74 11, wherein the operations further comprise operations to provide a return code indicating at least one of: whether a TCP segment was received out-of-order and whether a TCP segment overlapped another TCP segment.

- 80 17. (currently amended) The method of claim 74 11, wherein the operations further comprise operations to return data of a field within a header of a TCP segment.
- 81 18. (currently amended) The method of claim 74 11, further comprising invoking the software library operations from an application program.